

Appendix H

Conversion Factors

Table H1. Heat Rates

Fuel	Units	Approximate Heat Content
Coal¹		
Production	million Btu per short ton	21.287
Consumption	million Btu per short ton	20.856
Coke Plants	million Btu per short ton	26.800
Industrial	million Btu per short ton	22.105
Residential and Commercial	million Btu per short ton	23.011
Electric Utilities	million Btu per short ton	20.525
Imports	million Btu per short ton	25.000
Exports	million Btu per short ton	26.174
Coal Coke	million Btu per short ton	24.800
Crude Oil		
Production	million Btu per barrel	5.800
Imports	million Btu per barrel	5.948
Petroleum Products		
Consumption ²	million Btu per barrel	-5.362
Motor Gasoline ²	million Btu per barrel	5.206
Jet Fuel (Kerosene)	million Btu per barrel	5.670
Distillate Fuel Oil	million Btu per barrel	5.825
Residual Fuel Oil	million Btu per barrel	6.287
Liquefied Petroleum Gas	million Btu per barrel	3.625
Kerosene	million Btu per barrel	5.670
Petrochemical Feedstocks	million Btu per barrel	5.630
Unfinished Oils	million Btu per barrel	5.800
Imports ²	million Btu per barrel	-5.493
Exports ²	million Btu per barrel	-5.769
Natural Gas Plant Liquids		
Production ²	million Btu per barrel	-3.885
Natural Gas		
Production, Dry	Btu per cubic foot	1,028
Consumption	Btu per cubic foot	1,028
Non-electric Utilities	Btu per cubic foot	1,029
Electric Utilities	Btu per cubic foot	1,022
Imports	Btu per cubic foot	1,022
Exports	Btu per cubic foot	1,022
Electricity Consumption	Btu per kilowatthour	3,412

¹Conversion factors vary from year to year. 1996 values are reported.

²Conversion factors vary from year to year. 2000 values are reported.

Source: Energy Information Administration, AEO99 National Energy Modeling System run AEO99B.D100198A.

Conversion Factors

Table H2. Metric Conversion Factors

United States Unit	multiplied by	Conversion Factor	equals	Metric Unit
Mass				
Pounds (lb)	X	0.453 592 37	=	kilograms (kg)
Short Tons (2000 lb)	X	0.907 184 7	=	metric tons (t)
Length				
Miles	X	1.609 344	=	kilometers (km)
Energy				
British Thermal Unit (Btu)	X	1055.056 ^a	=	joules(J)
Quadrillion Btu	X	25.2	=	million tons of oil equivalent (Mtoe)
Kilowatthours (kWh)	X	3.6	=	megajoules(MJ)
Volume				
Barrels of Oil (bbl)	X	0.158 987 3	=	cubic meters (m^3)
Cubic Feet (ft^3)	X	0.028 316 85	=	cubic meters (m^3)
U.S. Gallons (gal)	X	3.785 412	=	liters (L)
Area				
Square feet (ft^2)	X	0.092 903 04	=	square meters (m^2)

Note: Spaces have been inserted after every third digit to the right of the decimal for ease of reading.

^aThe Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

Source: Energy Information Administration (EIA), *Annual Energy Review 1997*, DOE/EIA-0384(97)(Washington DC, July 1998), Table B1 and EIA, *International Energy Outlook 1998*, DOE/EIA-0484 (98) (Washington, DC, April 1998).

Table H3. Metric Prefixes

Unit Multiple	Prefix	Symbol
10^3	kilo	k
10^6	mega	M
10^9	giga	G
10^{12}	tera	T
10^{15}	peta	P
10^{18}	exa	E

Source: Energy Information Administration, *Annual Energy Review 1997*, DOE/EIA-0384(97)(Washington, DC, July 1998), Table B2, and EIA, Statistics and Methods Group.